

# MULTI-DIMENSIONAL PATTERN RECOGNITION BY USE OF DIGITAL HOLOGRAPHY

## ABSTRACT

5 A method and system for performing three-dimensional pattern recognition by  
use of digital holography is disclosed. The complex amplitude distribution generated  
by an object is recorded by phase-shifting interferometry. The digital hologram  
contains information about the objects shape, location, and orientation. This  
information allows one to perform multi-dimensional pattern-recognition methods  
with a high degree of discrimination and to measure three-dimensional orientation  
changes.  
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